UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,183	03/29/2004	Joseph A. Zupanick	067083.0297	5833

26231 7590 05/10/2006

FISH & RICHARDSON P.C.
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
COY, NICOLE A	
ART UNIT	**PAPER NUMBER**
3672	

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/813,183	ZUPANICK, JOSEPH A.	
	Examiner	Art Unit	
	Nicole Coy	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/13/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Drentham-Susman et al. (US Pub. No. 2003/0029308).

With respect to claim 1, Van Drentham-Susman et al. discloses a system for controlling drill motor rotational speed, comprising: a downhole motor (3) disposed in a drill string (see figure 1) and having a rotor (24) operable to be rotated by a flow of drilling fluid through the motor; one or more by-pass ports (15) formed in the drill string and operable to allow a portion of the drilling fluid to exit the drill string into a well bore prior to the drilling fluid flowing through the motor; a governor (5) coupled to the rotor (24) of the downhole motor (3) and comprising a valve (6), the valve operable to: move in response to the rotational speed of the rotor (see page 4 paragraphs [0048] and [0049]), the movement of the valve operable to control the amount of drilling fluid allowed to flow through the one or more by-pass ports and exit the drill string into the well bore prior to the drilling fluid flowing through the motor (see page 4 paragraphs [0048] and 0049]); and directly control the flow of the drilling fluid into the motor based on the amount of drilling fluid allowed to flow through the one or more by-pass ports, thereby controlling the rotational speed of the rotor (see page 4 paragraphs [0046]-

[0049]); and a rotatable downhole device (4) coupled to the motor and operable to be rotated by the downhole motor.

With respect to claims 2 and 12, Van Drentham-Susman et al. disclose that the governor (5) is further operable to prevent the rotor (24) from exceeding a predetermined rotational speed (see page 6 paragraphs [0064] and [0065]).

With respect to claims 3 and 13, Van Drentham-Susman et al. disclose that the governor (5) comprises two or more valve weights (35) coupled to the valve(6), the valve weights operable to rotate at substantially the same speed as the rotor (see page 4 paragraph [0048]), an axial force generated by the rotation of the valve weights (35) operable to move the valve relative to the one or more by-pass ports (see page 4 paragraph [0049]).

With respect to claims 4 and 14, Van Drentham-Susman et al. disclose a valve spring (11) operable to provide an axial force to counteract the axial force generated by the rotation of the valve weights (see page 4 paragraph [0045]).

With respect to claims 5 and 15, Van Drentham-Susman et al. disclose that a spring constant of the valve spring and a mass of the valve weights are selected based on a desired maximum rotational speed of the rotor (see page 2 paragraphs [0018] and [0020]).

With respect to claims 6 and 16, Van Drentham-Susman et al. disclose that the governor is operable to control the rotational speed of the rotor regardless of a variable weight-on-bit of the drill string (see paragraph [20]).

With respect to claims 7 and 17, Van Drentham-Susman et al. disclose that the one or more by-pass ports (15) are formed in one or more positions in the drill string such that the flow of drilling fluid out of the drill string through the one or more by-pass ports does not substantially affect a weight-on-bit of the drill string (see page 3 paragraph [0024]).

With respect to claims 8 and 18, Van Drentham-Susman et al. disclose that the rotatable downhole device comprises a drill bit (4) operable to remove portions of a subterranean zone to form the well bore (see figure 1).

With respect to claims 9 and 19, Van Drentham-Susman et al. disclose that the governor (5) is disposed at an inlet of the motor (3).

With respect to claims 10 and 20, Van Drentham-Susman et al. disclose that the one or more by-pass ports (15) are formed in the drill string proximate to an inlet of the motor (see figures 1 and 2).

With respect to claim 11, Van Drentham-Susman et al. disclose a method for controlling drill motor rotational speed, comprising: pumping a drilling fluid through a drill string (see page 3 paragraph [0027]), the drill string comprising a downhole motor (3), a governor (5), and one or more by-pass ports (15); rotating a rotor (24) of the motor using the flow of the drilling fluid through the motor; moving a valve of the governor in response to the rotational speed of the rotor such that the movement of the valve controls the amount of drilling fluid allowed to flow through the one or more by-pass ports and exit the drill string into the well bore prior to the drilling fluid flowing through

the motor to directly control the flow of the drilling fluid into the motor and the rotational speed of the rotor (see page 4 paragraphs [0045]-[0049]).

With respect to claim 21, Van Drentham-Susman et al. disclose a system for controlling drill motor rotational speed, comprising: a motive (3) means disposed in a drill string and having a rotating means (24) operable to be rotated by a flow of drilling fluid through the motive means; one or more fluid by-pass means (15) formed in the drill string and operable to allow a portion of the drilling fluid to exit the drill string into a well bore prior to the drilling fluid flowing through the motor; a governing means (5) coupled to the rotating means (24) of the motive means (3) and comprising a valve means(6), the valve means operable to: move in response to the rotational speed of the rotating means, the movement of the valve means operable to control the amount of drilling fluid allowed to flow through the one or more fluid by-pass means and exit the drill string into the well bore prior to the drilling fluid flowing through the motor (see page 4 paragraphs [0045]-[0049]); and directly control the flow of the drilling fluid into the motive means based on the amount of drilling fluid allowed to flow through the one or more fluid by-pass means, thereby controlling the rotational speed of the rotating means (see paragraphs [0045]-[0049]); and a drilling means (4) coupled to the motive means and operable to be rotated by the motive means (see figure 1).

With respect to claim 22, Van Drentham-Susman et al. disclose a system for controlling drill motor rotational speed, comprising: a downhole motor (3) disposed in a drill string and having a rotor (24) operable to be rotated by a flow of drilling fluid through the motor(3); one or more by-pass ports (15) formed in the drill string and

operable to allow a portion of the drilling fluid to exit the drill string into a well bore prior to the drilling fluid flowing through the motor; and a governor (5) disposed at an inlet to the downhole motor (3) and coupled to the rotor (24) of the downhole motor (3), the governor (5) operable to prevent the rotor (24)from exceeding a predetermined speed (see page 3 paragraph [0020]), the governor comprising: a valve (6) operable to: move in response to the rotational speed of the rotor, the movement of the valve operable to control the amount of drilling fluid allowed to flow through the one or more by-pass ports and exit the drill string into the well bore (see page 4 paragraphs [0045]-[0049]); and directly control the flow of the drilling fluid into the motor based on the amount of drilling fluid allowed to flow through the one or more by-pass ports, thereby controlling the rotational speed of the rotor (see paragraph [20] and paragraphs [0045]-[0049]); and two or more valve weights (35) coupled to the valve, the valve weights operable to rotate at substantially the same speed as the rotor, an axial force generated by the rotation of the valve weights operable to move the valve relative to the one or more by-pass ports (see paragraphs [0045]-[0049]).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Van Huissen (USP 3,899,033); Reinhardt (USP 4,768,598); Jeter (USP 4,817,739); Falgout, Sr. (USP 6,568,485).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole Coy whose telephone number is 571-272-5405. The examiner can normally be reached on M-F 8:00-5:30, 1st F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

nac

William Neuder
Primary Examiner